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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/786,163 | 02/28/2001 | Dorit Wolf | WOLF, D. ET AL-IPCT | 4075 |
| 7590 12/20/2005 | | | EXAMINER | |
| Collard & Roe 1077 Northern Boulevard Roslyn, NY 11576 | | | BROWN, JENNINE M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1755 | |
| DATE MAILED: 12/20/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|--------------------------|--------------------------------------|------------------------------------|--|
| Interview Summary | Application No. 09/786,163 | Applicant(s) WOLF ET AL. | |
| | Examiner Jennine M. Brown | Art Unit 1755 | |

All participants (applicant, applicant's representative, PTO personnel):

(1) Jennine M. Brown.

(3) Ed Freedman.

(2) Jerry A. Lorengo.

(4) Dr. Sonke Lorenz.

Date of Interview: 13 December 2005.

Type: a) ☐ Telephonic b) ☐ Video Conference
c) ☒ Personal [copy given to: 1) ☐ applicant 2) ☒ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____.

Claim(s) discussed: all pending.

Identification of prior art discussed: Schultz, Cawse and Deem.

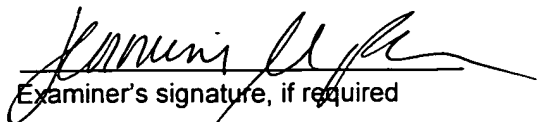
Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Proposed claim amendment was shared by applicant. Applicant may address permutation number of iterations which would give convergence for the polyoxometallate produced. Applicant is requested to enumerate specifically where the prior art fails to fairly teach or suggest the claimed method. The applicant indicated that amendments and arguments would be filed after final. The examiner indicated that although any such filing would be considered, the amendments may not be entered and an RCE might be required .

- 19.(new) A method for ^{producing an active} selecting components for the preparation of active and/or selective solid catalysts of inorganic or organometallic materials or mixtures thereof comprising the steps of:

(a) preparing a first generation of catalysts having a number n_1 of solid catalysts in the form of compounds of the formula (I)

$$\left(A_{a_1}^1 \dots A_{a_i}^i\right) - \left(B_{b_1}^1 \dots B_{b_j}^j\right) - \left(D_{d_1}^1 \dots D_{d_k}^k\right) - \left(T_{t_1}^1 \dots T_{t_l}^l\right) - O_p \quad (I)$$

wherein $A^1 \dots A^i$ is a number i of different main components which are selected from the elements of the PTE, excluding trans uranium and noble gas elements, and the number i is between 1 and 10,

$B^1 \dots B^j$ is a number j of different minor components selected from the group of the elements Li, Na, Ka, Mg, Ca, Sr, Ba, Y, La, Ti, Zr, V, Nb, Cr, Mn, Tc, Re, Fe, Ru, Os, Co, Rh, Ir, Ni, Pd, Pt, Cu, Ag, Au, Zn, Cd, Hg, B, Al, Ga, In, C, Si, Sn, Pb, N, P, As, Sb, Bi, S, Se, Te, F, Cl, Ce and Nd, and the number j is between 1 and 10,

$D^1 \dots D^k$ is a quantity k of different doping elements selected from the group of the elements Li, Na, Ka, Mg, Ca, Sr, Ba, Y, La, Ti, Zr, V, Nb, Cr, Mn, Tc, Re, Fe, Ru, Os, Co, Rh, Ir, Ni, Pd, Pt, Cu, Ag, Au, Zn, Cd, Hg, B, Al, Ga, In, Si, Sn, Pb, N, P, As, Sb, Bi, S, Se, Te, F, Cl, Ce and Nd and the number k is between 1 and 10,

$T^1 \dots T^l$ is a number l of different support components which are comprised of oxides, carbonates, carbides, nitrides, borides of the elements Mg, Ca, Sr, Ba, La, Zr, Ce, Al, Si or a mixed phase of two or more thereof, and the number l is between 1 and 10, and O is oxygen, $a_1 \dots a_i$ are identical or different mole fractions of 0 to 100 mole-% with the provision that the mole fractions

$a_1 \dots a_i$ cannot all be 0 at the same time,

$b_1 \dots b_j$ are mole fractions of 0 to 90 mole-%,

$d_1 \dots d_k$ are mole fractions of 0 to 10 mole-%,

$t_1 \dots t_l$ are mole fractions of 0 to 99.99 mole-%,

p is a mole fraction of 0 to 75 mole-%, wherein the sum of all mole fractions

$a_i + b_j + d_k + t_l$ may be not greater than 100 %, and

the number n_1 of catalysts with different quantitative composition or different chemical composition or different weight and chemical compositions is in the range of 5 to 100,000; and

determining the fitness of the catalysts experimentally according to the activity or selectivity or activity and selectivity of the 1st generation catalysts for a given catalytic reaction in a reactor or in several series connected reactors;

Do Not Enter

- (b) selecting a number y_{n+1} of catalysts of n^{th} generation according to the highest activities for a catalytic reaction or the highest selectivities for the desired product and product mixture or the highest activity and selectivity of all 1^{st} to n^{th} generation solid catalysts, wherein the number y_{n+1} is 1 to 50 % of the number n_n ; wherein n is finite
- (c) preparing a n_{n+1} -th generation of solid catalysts from the selected y_{n+1} catalysts, wherein n_{n+1} new catalysts of the general formula (I) with A, B, D, T, a, b, d and t and p as defined under (a) are generated by:
- selecting at least two respective catalysts from the number y_{n+1} of catalysts with a probability of $W_{\text{cat}} = (y_{n+1})^{-1} \cdot 100\%$, and selecting at least one component of the selected at least two catalysts, respectively, with a pre-set probability W for each of the catalysts components $W_A = (i \cdot y_{n+1})^{-1} \cdot 100\%$, $W_B = (j \cdot y_{n+1})^{-1} \cdot 100\%$, $W_D = (k \cdot y_{n+1})^{-1} \cdot 100\%$, $W_T = (l \cdot y_{n+1})^{-1} \cdot 100\%$ using a ^{computerized} random-number generator; and
 - performing at least one of the steps of:
 - exchanging the selected components between the selected at least two respective catalysts to form new catalysts, and
 - varying a substance amount a_i , b_j , d_k and t_l of a catalyst component A^i , B^j , D^k and T^l selected with a probability $W_A = (i \cdot y_{n+1})^{-1} \cdot 100\%$, $W_B = (j \cdot y_{n+1})^{-1} \cdot 100\%$, $W_D = (k \cdot y_{n+1})^{-1} \cdot 100\%$, $W_T = (l \cdot y_{n+1})^{-1} \cdot 100\%$ for at least one of the selected catalysts by determining new values for the corresponding mole fractions within the limits defined under (a) using a ^{computerized} random-number generator;
- (d) determining a fitness of the catalysts experimentally by measuring the activity or selectivity or activity and selectivity of the $(n+1)^{\text{th}}$ generation of catalysts for a given catalytic reaction in a reactor or in several series connected reactors;
- (e) performing the selection of catalysts according to step (c), the preparation of a new catalyst generation according to step (d), and the determination of a fitness function according to step (e) until a catalyst generation is obtained, for which the fitness compared to the preceding generations is either not increased, or no longer significantly increased as an arithmetic mean.